order was originally submitted by the competing carrier. Thus, BellSouth's measurement, like the measurements it provided in its initial application, does not capture the time, if any, that elapses between when a new entrant first sends an order to BellSouth, and when that order is accepted as valid by BellSouth's SOCS system. As explained above, the evidence demonstrates that there are significant delays in BellSouth's processing of orders. By measuring the interval from a point in time where BellSouth has already completed its processing of the order, BellSouth's measurement fails to capture the delays in order processing that are a central problem with its OSS functions. Therefore, BellSouth measurements may vastly understate the difference between when a BellSouth representative submits a retail order and BellSouth actually provides the service, as compared to when a competing carrier representative initially submits a resale order and service is provided.[407]

137. We believe that a far more meaningful measure of parity is one that measures the interval from when BellSouth first receives an order to when service is installed. From a customer's perspective, what is important is the average length of time it takes from when the customer first contacts the carrier for service to when that service is provided. From a customer's perspective this period of time is a crucial point of comparison between the incumbent's performance and the competing carrier's performance. The most competitively significant performance measures are those that describe the "end-to-end quality of service from the *customer's* viewpoint."[408] If the customer calls BellSouth on day one and receives service on day five, for example, the customer will expect comparable performance from the competing carrier. The customer is not likely to care if a competing carrier's inability to provide service within a comparable time is not the competing carrier's fault but rather is due to the incumbent LEC's delays in processing the competing carrier's order. Ideally then, one would want a measurement of the time between a customer's initial contact with a carrier and the installation of service. It would not be practical, however, for BellSouth to ascertain when a competing carrier is first contacted by a customer. A reasonable surrogate for when a customer first contacts a competing carrier would be when the competing carrier first submits an order to BellSouth, *i.e.*, when the competing carrier's order first crosses the OSS interface used for ordering. The end of the interval should be when service is actually installed. Thus, we conclude that the most meaningful average installation interval measure would be the average interval from when BellSouth first receives an order from a competing carrier to when BellSouth provisions the service for that order. This can then be compared with the average time from when BellSouth's own service representatives first submit an order for service to when BellSouth completes provision of the service for its retail customers. Such a measure would expose any delays in the processing of orders. We expect BellSouth to provide such a measure in future applications.

138. We recognize that the length of the average installation interval provided for resale and retail orders can be influenced by such variables as the mix and complexity of services ordered by the competing carrier and the possibility that the competing carrier's customers may not choose to receive service on the first date available for service installation.

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[407] *See* Department of Justice Evaluation, App. A at A-34 & n.52.

[408] Department of Justice Friduss Aff. at para. 22 (emphasis in original).

In the *Ameritech Michigan Order*, the Commission concluded that these issues did not justify the withholding of information on average installation intervals by the BOC, but rather went to the weight the Commission should attach to the information.[409] The Commission concluded that the BOC could provide information to explain such variables and how they might affect the measurement.[410] The Commission further explained that:

> [The BOC] can and should exclude from its data those customers who requested due dates beyond the first available due date. In addition, [the BOC] can and should disaggregate its data to account for the impact different types of services may have on the average installation interval. Moreover, [the BOC] is free to use data on due dates not met to explain any inconsistencies between the average installation intervals for itself and other carriers. For example, if a particular competing carrier consistently requests a standard, longer interval for completion of all of its orders, rather than the first available installation date, such data may explain that any differences in the average installation intervals between [the BOC] and the other carrier are not due to discriminatory conduct on the part of [the BOC].[411]

139. We also expect BellSouth to provide data that will permit us to determine the average interval from when BellSouth first receives an order to when BellSouth sends an order completion notice to the competing carrier. There should not be a material difference in time between the actual installation of service and the competing carrier's receipt of an order completion notice. As we explained above, the receipt of order status notices, including order completion notices, is critical to a competing carrier's ability to monitor orders for resale service both for its own records and in order to provide information to its end user customers. The receipt of the order completion notice is particularly important because it provides the competing carrier with notice that it has begun providing service to its new customer. Therefore, in addition, we expect BellSouth to provide information that shows it is providing competing carriers with timely receipt of order completion notices.

140. For the reasons discussed above, we find that BellSouth's performance measures do not provide sufficient evidence for us to determine whether it is providing nondiscriminatory access to the ordering and provisioning of resale services.

d. OSS Functions for Ordering and Provisioning of Unbundled Network Elements

141. We do not base our decision on BellSouth's OSS functions for ordering and provisioning of unbundled network elements, although we have a number of concerns relating to these OSS functions. Because competing carriers have used BellSouth's EDI ordering interface primarily for the ordering and provisioning of resale services, we focus our

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[409] *Ameritech Michigan Order* at para. 170.

[410] *Id.*

[411] *Id.* (internal citations omitted).

discussion in this section on the OSS functions associated with the ordering and provisioning of resale services.[412] We emphasize, however, that BellSouth must also be able to demonstrate that it is offering nondiscriminatory access to OSS functions so as to enable competing carriers to submit orders for and obtain unbundled network elements in a timely manner. A section 271 applicant must demonstrate that the OSS functions that it has deployed adequately support each of the modes of entry envisioned by the Act: interconnection, use of unbundled network elements, and resale.[413] A BOC therefore does not meet its obligations under section 271 of the Act until it demonstrates that its OSS functions for ordering and provisioning of unbundled network elements, as well as for resale, comply with the nondiscrimination requirements of the Act.[414] For those OSS functions that have no retail analogue, such as ordering and provisioning of unbundled network elements, a BOC must demonstrate that the access it provides to competing carriers offers an efficient competitor a meaningful opportunity to compete.[415]

142. As noted above, competing carriers have primarily used BellSouth's EDI interface for the ordering and provisioning of resale services. At the time of its application, BellSouth stated that no competing carriers were submitting orders for unbundled network elements through the EDI interface, although several carriers indicated their interest in using EDI.[416] As competing carriers transition to using EDI, BellSouth's preferred ordering interface, we are concerned that competing carriers may face the same problems with the EDI interface that carriers have experienced with orders for resale. These problems include high rejection rates and untimely order status notices.[417] We will examine carefully, in future applications, any allegations of similar problems with orders for unbundled network elements.

143. We are also concerned about the level of manual processing involved in the ordering and provisioning of unbundled network elements. BellSouth states that competing carriers can use the EDI interface to place an order for a loop, port (switching), interim

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[412] BellSouth Stacy OSS Aff. at para. 58.

[413] *Ameritech Michigan Order* at para. 133.

[414] *See id* at paras. 159-161.

[415] *Id.* at para. 141; *see Local Competition Order*, 11 FCC Rcd at 15660; *Local Competition Second Reconsideration Order*, 11 FCC Rcd at 19742-43.

[416] BellSouth Stacy OSS Aff. at para. 58; ALTS Moses (DeltaCom) Aff. at para. 9; Sprint Closz Aff. at paras. 39-40; WorldCom Comments, App., Declaration of Gary Ball (WorldCom Ball Decl.) at para. 5. Because there has been no commercial usage of the EDI interface for ordering unbundled network elements, BellSouth submits evidence of internal testing to demonstrate that it offers nondiscriminatory access to OSS functions for ordering and provisioning unbundled network elements. *See* BellSouth Milner Aff. at paras. 5-9; BellSouth Milner Aff., Ex. WKM-1; BellSouth Stacy OSS Aff. at para. 58.

[417] *See* discussion *supra* paras. 104-131.

number portability (INP), and a loop combined with INP.[418] At the time BellSouth filed its application, orders placed through the EDI interface for these elements were processed manually by the LCSC.[419] Several carriers contend that BellSouth's reliance on manual processing for these orders causes a significant increase in the time necessary to process these orders and can lead to errors.[420] Competing carriers also assert that the LCSCs do not have adequate resources to process orders manually and support the provisioning of unbundled network elements.[421]

144. BellSouth contends that it implemented mechanized order processing for the four types of unbundled network elements described above on October 6, 1997.[422] Although we commend BellSouth for taking steps to improve the efficiency of its systems, we note that implementation of mechanized processing of orders for these unbundled network elements was instituted after the date BellSouth filed its application.[423] We expect that, in any future application, BellSouth will provide a detailed explanation of the actions it has undertaken, as of the date of filing, to transition to an automated process, and will demonstrate that it is able to process orders for and provision unbundled network elements in a timely and accurate manner at both current and projected levels of demand from competing carriers.[424]

145. An additional concern is whether BellSouth has deployed the necessary OSS functions to allow competing carriers to order unbundled network elements in a manner that allows them to be combined. As part of its duty to offer nondiscriminatory access to unbundled network elements, BellSouth must demonstrate that it offers such elements in a manner that allows new entrants to combine them to provide a telecommunications service.[425] As the Commission stated in the *Ameritech Michigan Order*, deploying the necessary OSS

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[418] BellSouth Stacy OSS Aff. at para. 59.

[419] *Id.*; AT&T Bradbury Aff. at para. 184; MCI King Decl. at paras. 115-16, 119.

[420] ACSI Comments at 47; AT&T Bradbury Aff. at para. 184; MCI King Decl. at para. 130; WorldCom Ball Aff. at paras. 5-6. *See generally Ameritech Michigan Order* at paras. 172-99.

[421] ACSI Comments at 28; Intermedia Comments at 29-37; LCI Comments at 6 & App., Tab 2, Declaration of Albert D. Witbrodt (LCI Witbrodt Decl.) at para. 6.

[422] BellSouth Stacy OSS Aff. at para. 58; BellSouth Stacy OSS Reply Aff. at para. 51. BellSouth asserts that manual processing was sufficient for the low volume of unbundled network element orders placed by competing carriers up to early October. BellSouth Reply Comments at 45.

[423] Consistent with the Commission's decision in the *Ameritech Michigan Order*, we must analyze BellSouth's operations support system at the time of the application. Given the statutory time constraints, we do not consider post-filing measures. *See Ameritech Michigan Order* at paras. 152-53.

[424] *See id.* at para. 161.

[425] For a discussion of whether BellSouth offers nondiscriminatory access to unbundled network elements, see *infra* part VI.C; *see also Iowa Utils. Bd. v. FCC, Rehearing Order.*

functions that allow competing carriers to order unbundled network elements is critical to provisioning those network elements.[426]

146. BellSouth states that, although it will generally deliver unbundled network elements to a new entrant's collocation space, it will continue to offer certain elements in combination, because, as BellSouth notes, some of these elements technically cannot be separated.[427] BellSouth, however, submits no evidence of its ability to provide OSS functions that support the ordering and provisioning of these combinations of network elements. Indeed, BellSouth states in its affidavits that:

> The changes BellSouth would have to make to our electronic interfaces to accommodate [unbundled network element (UNE)] combinations would include modifying them to accept a new UNE order type, and substantial inventory and billing changes, which would be required to allow the systems to provision UNE combinations as resale (since they replicate resale services), but inventory and bill them as UNEs.[428]

BellSouth further indicates that it has not yet undertaken development of OSS that could process orders for combinations of network elements.[429] In addition, we are troubled by allegations in the record with respect to BellSouth's ability to coordinate orders for separate unbundled network elements so that a carrier may combine them.[430] We expect that, in future applications, BellSouth will submit evidence to demonstrate that both individual network elements and those elements that BellSouth offers in combination can be ordered and provisioned in an efficient, accurate, and timely manner, and that its operations support

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[426] *Ameritech Michigan Order* at para. 160.

[427] *See infra* para. 191; *see also* BellSouth Reply Comments, App. A, Tab 9, Reply Affidavit of Alphonso J. Varner (BellSouth Varner Reply Aff.) at para. 21 (listing unbundled network elements that BellSouth will provide in combination).

[428] BellSouth Stacy OSS Aff. at para. 60.

[429] *Id.*

[430] A number of carriers contend that BellSouth has not adequately coordinated the cutover of loops with competing carriers, and, as a result, customers have had their service disrupted for significant periods of time. ACSI Comments at 31-32 & App. A, Tab 1, Affidavit of James C. Falvey (ACSI Falvey Aff.) at para. 32; ALTS Comments at 24-25; Sprint Closz Aff. at paras. 65-74; WorldCom Comments at 8; WorldCom Ball Decl. at para. 18. When a competing carrier orders a loop and unbundled local switching, the new entrant and BellSouth would need to coordinate these orders and the cutover of the loop so that the new entrant's customer does not lose service for a long period of time.

systems are designed to accommodate both current and projected demand for unbundled network elements and combinations of unbundled network elements.[431]

5. Analysis of Pre-Ordering Functions

147. The Commission's rules define pre-ordering and ordering collectively as "the exchange of information between telecommunications carriers about current or proposed customer products and services or unbundled network elements or some combination thereof."[432] Pre-ordering generally includes those activities that a carrier undertakes with a customer to gather and confirm the information necessary to formulate an accurate order for that customer. As several parties point out, new entrants need access to information about an incumbent's network and the availability of products, services, and features to interact with their customers and obtain the information needed to place an order for the services the customer desires.[433] BellSouth states that it provides the following functions as part of its pre-ordering: "(1) street address validation; (2) telephone number information; (3) services and features information; (4) due date information; and (5) customer service record information."[434]

148. The Commission determined in the *Ameritech Michigan Order* that the OSS functions for pre-ordering of resale services are analogous to the pre-ordering of a BOC's retail services.[435] As a result, the Commission concluded that BOCs must provide to competing carriers access to OSS functions for pre-ordering of resale services equivalent to the access provided to their retail operations in terms of quality, accuracy, and timeliness.[436] Because new entrants providing service through unbundled network elements need access to much of the same pre-ordering information and functions as a carrier providing service through resale, BOCs must also provide access to OSS functions for pre-ordering of unbundled network elements that is equivalent to the access provided to their retail operations.

149. As discussed above, BellSouth currently provides access to pre-ordering functions through its LENS interface.[437] BellSouth states that LENS "is an interactive system

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[431] As discussed below, although the Commission's rules do not require BellSouth to offer combinations of unbundled network elements, BellSouth states that it offers certain network elements in combination. *See infra* para. 191; *see also* BellSouth Varner Reply Aff. at para. 21 (listing unbundled network elements that BellSouth will provide in combination).

[432] 47 C.F.R. § 51.5.

[433] AT&T Bradbury Aff. at para. 22; MCI King Decl. at para. 39; Sprint Closz Aff. at para. 10.

[434] BellSouth Stacy OSS Aff. at para. 5.

[435] *Ameritech Michigan Order* at para. 140.

[436] *Id.* at paras. 139-40.

[437] *See* discussion *supra* para. 91.

that allows the CLEC direct, real-time access to BellSouth's pre-ordering OSSs."[438] BellSouth further contends that it "is 'providing nondiscriminatory access to all OSS [pre-ordering] functions, as required by the Act.'"[439]

150. Commenters generally assert that BellSouth's provision of access to its OSS functions for pre-ordering is not equivalent to the OSS access it provides to itself. Several commenters claim that the fundamental defect with BellSouth's operations support systems for pre-ordering is that, unlike a machine-to-machine interface, LENS allows new entrants to access information, but does not allow them to transfer information electronically to their operations support systems or to BellSouth's EDI interface for ordering.[440] As a result, new entrants must take an extra step between the pre-ordering and ordering processes that BellSouth does not face in the case of its own retail operation, thereby increasing the likelihood of errors and delay for new entrants but not for BellSouth's retail operation. Commenters also dispute BellSouth's assessment that it provides substantially equivalent access to particular pre-ordering functions, and that BellSouth's pre-ordering interface is operationally ready.

151. As discussed below, we conclude that BellSouth does not offer nondiscriminatory access to OSS functions, because: (1) BellSouth has prevented competing carriers from connecting LENS electronically to their operations support systems and to the EDI ordering interface, and (2) BellSouth does not provide equivalent access to due dates for service installation. These deficiencies in BellSouth's offer of access to OSS functions place competitors at a significant disadvantage. We further address, but do not resolve as a decisional ground for denying BellSouth's application, concerns raised in the record about certain other OSS functions for pre-ordering. In particular, we address access to telephone numbers and allegations in the record that certain functions require a competing carrier to take additional steps to obtain the same information as BellSouth's retail representatives. We do not base our decision on these issues, because there is inadequate evidence in the record for us to assess the impact on competing carriers of the differences between LENS and the pre-ordering systems used by BellSouth's retail operations. All of the foregoing issues concern the first part of our inquiry, whether the BOC has deployed the necessary systems and interfaces to provide sufficient access to each of the necessary OSS functions. We are also concerned, however, about the operational readiness of BellSouth's OSS functions for pre-ordering, the second part of our inquiry. We therefore highlight several issues relating to the operational readiness of BellSouth's pre-ordering interface, although we do not base our decision on these issues, because there is inadequate evidence in the record for us to determine the extent of these operational readiness problems.

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[438] BellSouth Application at 24.

[439] *Id.* at 26.

[440] For a discussion of this issue, see *infra* paras. 152-166.

a. Lack of Equivalent Access in General

152. As discussed above, BellSouth's pre-ordering interface for new entrants, LENS, is a proprietary terminal-type interface that uses a browser software program to retrieve information from a BellSouth server.[441] Several carriers, both large and small, and the Department of Justice contend that, unlike a machine-to-machine interface,[442] competing carriers are unable to connect LENS electronically to their operations support systems or to the separate EDI ordering interface.[443] Instead, they contend that competing carriers must copy the information from the LENS screen and manually reenter it into their operations support systems and into the EDI ordering interface, which leads to increased costs, delays, and human errors.[444] As a result, these parties claim that LENS places competing carriers at a significant competitive disadvantage. Moreover, several of these parties argue that BellSouth has impeded the efforts of new entrants that have sought to use alternative methods that would enable them to connect LENS to their systems.[445]

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[441] *See supra* para. 91. We note that BellSouth, pursuant to its interconnection agreement with AT&T, is developing a machine-to-machine interface for pre-ordering, EC-Lite, that is scheduled to be available at the end of December 1997. *See* BellSouth Stacy OSS Aff. at para. 42 & Ex. WNS-21. We do not consider this interface in this application because it was not offered at the time BellSouth filed its application. *See* Department of Justice Evaluation, App. A at A-10 to A-11.

[442] A machine-to-machine interface allows a new entrant to connect its operations support systems electronically to BellSouth's systems. Department of Justice Evaluation, App. A at 4. BellSouth is deploying a machine-to-machine EDI interface for ordering, as discussed above. *See* discussion *supra* para. 92.

[443] Department of Justice Evaluation, App. A at A-10 to A-14; ALTS Comments, Attach. C, Affidavit of Steven D. Moses on behalf of DeltaCom (ALTS Moses (DeltaCom) Aff. at para. 10; AT&T Comments at 26; AT&T Bradbury Aff. at para. 27; Intermedia Comments at 20; LCI Comments at 2; MCI Comments at 24-26; MCI King Decl. at para. 43 & n.5; Sprint Comments at 12-13; Sprint Closz Aff. at paras. 44, 50. As discussed above, although LENS may be used for ordering certain services, BellSouth claims that EDI is the primary interface for ordering and relies on its EDI interface to demonstrate compliance with the section 271 requirements. *See supra* paras. 92-94. A new entrant can access the EDI interface either through its own operations support systems or through a software package developed by BellSouth, PC-EDI. *See supra* para. 92. Thus, if a new entrant were able to connect its operations support systems electronically to LENS, the new entrant could also connect LENS to the EDI interface.

[444] Department of Justice Evaluation, App. A at A-10 to A-14; ALTS Moses (DeltaCom) Aff. at paras. 10-11; AT&T Comments at 26; AT&T Bradbury Aff. at para. 27; Intermedia Comments at 20; LCI Comments at 2; MCI Comments at 24-26; MCI King Decl. at para. 43; Sprint Comments at 12-13; Sprint Closz Aff. at paras. 44, 50.

[445] ALTS Moses (DeltaCom) Aff. at para. 12; AT&T Comments at 26-27; AT&T Bradbury Aff. at paras. 29, 33-47; MCI Comments at 28-29; MCI King Decl. at paras. 48-50.

153. BellSouth, on the other hand, contends that "pre-ordering interactions with a CLEC using LENS are indistinguishable from pre-ordering interactions with BellSouth, regardless of whether LENS meets the definition of a machine to machine interface."[446] BellSouth further claims that, for a carrier that uses LENS for pre-ordering and EDI for ordering, "the integration of pre-ordering and ordering data is the responsibility of the CLEC."[447] In particular, BellSouth claims that competing carriers can use the following methods to connect LENS electronically to their operations support systems to avoid manually reentering data obtained from LENS: (1) use of Common Gateway Interface (CGI);[448] or (2) development of a software program to extract the data underlying each LENS screen, a process some parties refer to as "HTML parsing."[449] As a third method to avoid the need to retype data, BellSouth contends that competing carriers could "cut and paste" the information from LENS "into any other computer application that supports 'cut and paste,' including Microsoft Windows."[450] This latter process is similar to cutting and pasting text from one document into another.

154. We note that, whereas the South Carolina Commission did not expressly address this issue in its *Compliance Order*, the Florida Commission recently found the lack of integration to be a significant flaw in BellSouth's OSS functions for pre-ordering, because LENS requires manual handling of data, while BellSouth's retail systems, RNS and DOE, fully integrate the pre-ordering and ordering functions.[451] The public staff of the North

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[446] Testimony of Gloria Calhoun, BellSouth, South Carolina Commission July 7, 1997, 11:00 a.m. Hr'g, Tr. at 267.

[447] BellSouth Stacy OSS Aff. at para. 61.

[448] BellSouth describes CGI as a "specification for communicating data between an information server, such as the LENS server, and another independent application, such as a CLEC operations support system." BellSouth Stacy OSS Aff. at para. 44. BellSouth characterizes CGI as "an alternative for those CLECs who want to develop their own presentation systems for use with BellSouth's data." AT&T Bradbury Aff., Attach. 7, BellSouth's Report to the Georgia Public Service Commission, *Electronic Interfaces for the New Local Market* (Apr. 15, 1997) at 9.

[449] BellSouth Stacy OSS Aff. at para. 43; Testimony of Gloria Calhoun, BellSouth, South Carolina Commission July 7, 1997, 11:00 a.m. Hr'g, Tr. at 191-92. Each LENS screen contains data and computer code. This method involves separating the data from the computer code, identifying the type of information in each data field (*e.g.*, customer name, address, current service), and then transferring the data to the appropriate place in a competing carrier's operations support systems or in the EDI ordering interface. *See* BellSouth Stacy OSS Aff. at para. 43; MCI King Decl. at paras. 49-50.

[450] BellSouth Stacy OSS Aff. at para. 43. To use this method, a new entrant would highlight separate fields of data that appear on different LENS screens, copy the data, and then paste each field of data in another interface. *See* Department of Justice Evaluation, App. A at A-13; MCI King Decl. at 44.

[451] *Florida Commission Section 271 Order* at 83-84; *cf. South Carolina Commission Compliance Order* at 34-35. As discussed above, BellSouth has deployed the same operations support systems for use throughout its region. Thus, the systems reviewed by the Florida Commission are the same as those used in South Carolina. *See* discussion *supra* para. 100.

Carolina Commission, in its proposed order, did not consider this lack of integration to be significant, stating that "[a]ll that the [competing carriers] have to do is to electronically copy LENS information and electronically paste it into their EDI and EXACT interfaces -- a task no more complex than cutting data from one computer data screen and pasting it to another."[452]

155. For the reasons discussed below, we conclude that the evidence in the record indicates BellSouth has impeded competing carriers' efforts to connect LENS electronically to their operations support systems and to the EDI ordering interface by not providing competing carriers with the necessary technical specifications and by modifying the types of data provided through the LENS interface. Thus, we conclude that, unlike BellSouth's retail operation which uses an integrated pre-ordering/ordering interface, competing carriers cannot readily connect electronically the LENS interface to either their operations support systems or to BellSouth's EDI interface for ordering, notwithstanding their desire to do so.[453] We therefore conclude that LENS does not provide competing carriers with equivalent access to OSS functions for pre-ordering.

156. We further find that this lack of parity has a significant impact on a new entrant's ability to compete effectively in the local exchange market and to serve its customers in a timely and efficient manner.[454] Because, as BellSouth states, "there is no strict delineation between pre-ordering and ordering, as many 'pre-ordering' activities generally occur in the context of actually negotiating a service order," an integrated pre-ordering/ordering system is much more efficient.[455] Without such an integrated system, a new entrant is forced to enter information manually to use the EDI interface for ordering and to import the data into its operations support systems.[456] Entering information manually can lead to significant delays while the customer is on the line, assuming that a carrier wants to complete the order while speaking to the customer.[457] Moreover, whether a carrier completes

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[452] *North Carolina Public Staff Proposed Order* at 28.

[453] We recognize that LENS can also be used for ordering, and that when LENS is used for both pre-ordering and ordering, the pre-ordering and ordering functions are integrated. *See* BellSouth Reply Comments at 40. Nevertheless, because BellSouth acknowledges that LENS's ordering functionality is limited and relies on its EDI interface to demonstrate compliance with the section 271 requirements, we analyze the use of LENS for pre-ordering and the EDI interface for ordering. *See* discussion *supra* paras. 92-94.

[454] The terms "equivalent access" and "parity of access" are used synonymously in this section.

[455] Testimony of Gloria Calhoun, BellSouth, South Carolina Commission July 7, 1997, 11:00 a.m. Hr'g, Tr. at 198.

[456] Department of Justice Evaluation, App. A at A-12; ALTS Moses (DeltaCom) Aff. at paras. 10-11; AT&T Comments at 26; AT&T Bradbury Aff. at paras. 28, 30; LCI Comments at 2; MCI Comments at 25; MCI King Decl. at para. 44; Sprint Comments at 13-14; Sprint Closz Aff. at para. 50.

[457] Department of Justice Evaluation, App. A at A-12; AT&T Bradbury Aff. at paras. 22, 30; MCI King Decl. at paras. 43-44.

the order while the customer is on the line, as BellSouth's customer service representatives generally do, or enters the information at a later time, such manual entry of data requires a greater amount of time than BellSouth's retail operation requires.[458] As a result, the need to reenter information may limit a new entrant's ability to process a high volume of orders and would require a new entrant to expend a greater amount of resources than BellSouth to conduct the same number of pre-ordering transactions.[459]

157. Such manual entry of data also could lead to increased errors in entering information when placing an order.[460] As discussed above, BellSouth's systems are rejecting the vast majority of orders submitted by competing carriers.[461] Although BellSouth claims that these high rejection rates are due to mistakes made by competing carriers, we conclude above that BellSouth's actions have contributed to such errors.[462] It is reasonable to assume that this manual entry of information is a contributing factor to the high error rate, as a number of parties contend.[463] Accordingly, competitors' access to BellSouth's pre-ordering operations support systems is more conducive to errors than is the case for BellSouth's retail operations. When new entrants' customer service representatives make errors because of reentering information, the orders are rejected, and there is an unnecessary delay in processing those orders. As a result, customers may conclude that the new entrant does not match the quality of BellSouth's service, even though the problem stems from the access to OSS functions that BellSouth offers.

158. Moreover, this lack of a machine-to-machine interface prevents a carrier from developing its own customized interface that its customer service representatives could use on a nation-wide basis. As a result, new entrants that seek to enter other BOC markets would

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[458] Department of Justice Evaluation, App. A at A-12; ALTS Moses (DeltaCom) Aff. at paras. 10-11; AT&T Comments at 26; AT&T Bradbury Aff. at para. 30; LCI Baffer Decl. at para. 5; MCI Comments at 25; MCI King Decl. at para. 44; Sprint Closz Aff. at para. 50.

[459] Department of Justice Evaluation, App. A at A-12 to A-13; ALTS Moses (DeltaCom) Aff. at para. 10-11; AT&T Bradbury Aff. at para. 30; MCI King Decl. at paras. 43-44.

[460] Department of Justice Evaluation, App. A at A-12; ALTS Moses (DeltaCom) Aff. at para. 11; AT&T Comments at 26; AT&T Bradbury Aff. at para. 30; MCI Comments at 25; MCI King Decl. at 43-44; Sprint Closz Aff. at para. 50.

[461] *See* discussion *supra* paras. 104-114, 120.

[462] *See* discussion *supra* paras. 104-114, 120.

[463] Department of Justice Evaluation, App. A at A-12; ALTS Moses (DeltaCom) Aff. at para. 11; AT&T Comments at 26; AT&T Bradbury Aff. at para. 30; MCI Comments at 25; MCI King Decl. at 43-44; Sprint Closz Aff. at para. 50. Moreover, this high error rate and other delays in processing orders have contributed to problems that new entrants are experiencing with obtaining due dates, as discussed below. *See* discussion *infra* paras. 167-173.

need to train their staff on BellSouth's proprietary system and also on systems used in other regions of the country.[464]

159. For these reasons, we conclude that BellSouth's pre-ordering interface, in conjunction with BellSouth impeding competing carriers' efforts to connect electronically their systems and the EDI ordering interface to LENS, significantly restricts competing carriers' ability to market their services. To compete effectively in the local exchange market, new entrants must be able to perform services and interact with their customers as quickly and efficiently as BellSouth. The evidence demonstrates, however, that the operations support systems BellSouth offers will result in competing carriers' interactions with end-users taking longer and being more prone to errors than are BellSouth's interactions. We therefore find that BellSouth has not demonstrated that it offers equivalent access to OSS functions for pre-ordering of resale services.

160. In reaching our conclusion that BellSouth does not provide equivalent access to OSS functions for pre-ordering, we examine the record evidence regarding each of the methods suggested by BellSouth for connecting electronically the LENS interface with a competing carrier's operations support systems. BellSouth first contends that new entrants could use CGI to connect their operations support systems to LENS.[465] To use CGI, a competing carrier would need detailed technical specifications of BellSouth's interface.[466] In the *Ameritech Michigan Order*, the Commission determined that a BOC has an obligation "to provide competing carriers with the specifications necessary to instruct competing carriers on how to modify or design their systems in a manner that will enable them to communicate with the BOC's legacy systems and any interfaces utilized by the BOC for such access."[467]

161. Based on the record evidence, we conclude that BellSouth has not met its obligation to provide updated and complete CGI specifications. In its reply comments and in testimony, BellSouth acknowledges that it has not provided updated and complete

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[464] Department of Justice Evaluation, App. A at A-12 n.17, A-13, A-14; MCI Comments at 25-26; MCI King Decl. at para. 45; Sprint Closz Aff. at para. 50.

[465] AT&T contends that this method is "[t]he only potentially practical alternative for a large CLEC." AT&T Comments at 26.

[466] AT&T Bradbury Aff. at para. 41 & Attach. 3, Testimony of Gloria Calhoun, BellSouth, Alabama Commission Docket No. 25835, Aug. 19, 1997 Hr'g (Alabama Commission Aug. 19, 1997 Hr'g), Tr. at 686-87; Department of Justice Evaluation, App. A at A-10 n.16.

[467] *Ameritech Michigan Order* at para. 137. In addition, in the *Local Competition Second Reconsideration Order*, the Commission noted that "[i]nformation regarding interface design specifications is critical to enable competing carriers to modify their existing systems and procedures or develop new systems to use these interfaces to obtain access to the incumbent LEC's OSS functions." *Local Competition Second Reconsideration Order*, 11 FCC Rcd at 19742.

specifications.[468] BellSouth claims, however, that it has not provided such specifications, because competing carriers have not sought to use CGI.[469] The record evidence, however, demonstrates that competing carriers have expressed and continue to express an interest in using CGI to connect electronically their operations support systems to the LENS interface.[470] MCI's comments attach letters that it sent to BellSouth on May 16, June 4, June 26, and September 5 requesting the technical specifications for LENS.[471] MCI also submits BellSouth's response from July 8, 1997, in which BellSouth states that it is providing the technical specifications that MCI requested beginning on May 16, but that the document "had not been updated to match the current LENS application."[472] In that July 8 letter, BellSouth further states that it will work "to provide [MCI] an updated copy as soon as it is available."[473] Thus, contrary to BellSouth's unsupported allegation, the record evidence indicates that at least one carrier, MCI, has been requesting CGI specifications, but that BellSouth has not met its obligation to provide the complete, detailed, and updated specifications that new entrants need to use CGI to connect electronically their operations support systems to BellSouth's interface.

162. As for BellSouth's second proposed method for electronically connecting LENS to a new entrant's operations support systems -- development of a software program that

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[468] BellSouth Stacy OSS Reply Aff. at paras. 36-37; Testimony of Gloria Calhoun, BellSouth, Alabama Commission Aug. 19, 1997 Hr'g, Tr. at 687 ("I don't know that I can say that BellSouth completed development of [the CGI specification].").

[469] BellSouth states that it learned of AT&T's decision not to use CGI in a May 5, 1997 letter, and that "there was no interest expressed by any other CLEC at that time." BellSouth Stacy OSS Reply Aff. at para. 37.

[470] ALTS Moses (DeltaCom) Aff. at paras. 10, 12; AT&T Bradbury Aff. at paras. 33-45; MCI King Decl. at para. 48.

[471] MCI King Decl., Attach. 3, Letters from Bryan Green, Senior Manager, Systems Implementation, MCI Telecommunications Corp., to Ilene Barnett, BellSouth Interconnection Services (May 16, 1997; June 4, 1997; June 26, 1997); *Id.*, Attach. 6, Letter from Anna Hopkins, Local Systems Implementation Specialist, MCI Telecommunications Corp., to Cliff Bowers, Sales Director, BellSouth Telecommunications (Sept. 5, 1997).

[472] *Id.*, Attach. 4, Letter from Ilene Barnett, BellSouth Interconnection Services, to Bryan Green, MCI Telecommunications Corp. (July 8, 1997).

[473] *Id.* In its reply comments, BellSouth states that, as a result of the September 5 letter from MCI, "BellSouth has agreed to update the previously drafted CGI specification in cooperation with MCI." BellSouth further states that it was not until it received the September 5 letter that "MCI indicated that it was ready to proceed with a joint development effort, which provides a reasonable basis for BellSouth's committing additional resources to this effort [to draft CGI specifications]." BellSouth Stacy OSS Reply Aff. at 39. BellSouth's position ignores MCI's previous requests for the specifications and BellSouth's July 8 response in which it stated that it would provide updated specifications as soon as they were available. Moreover, as noted above, BellSouth has an obligation to provide to competing carriers detailed, updated, and complete technical specifications. *See Ameritech Michigan Order* at para. 137. We also note that the record does not indicate when BellSouth will complete the drafting of the specifications and provide them to competing carriers. *See* BellSouth Stacy OSS Reply Aff. at para. 39.

utilizes the information underlying each LENS presentation screen -- we find convincing evidence in the record that use of this method would not provide equivalent access to OSS functions for pre-ordering. Under this alternative, a carrier would need to deploy software to extract the information from each LENS screen as the data are presented.[474] Evidence in the record indicates that this method does not enable a new entrant to deploy an integrated pre-ordering and ordering interface that is equivalent to the integrated interface used in BellSouth's retail operation. As MCI points out, and BellSouth acknowledges, this method would require a competing carrier to proceed through each of the LENS presentation screens, just as a person using the system would, rather than being able to use the data independently of the BellSouth screens as with CGI.[475] Given this limitation, a competing carrier would only be able to download information from LENS one screen at a time, thereby resulting in a slower, less efficient process to connect LENS to the competing carrier's operations support systems than would be available through either CGI or a machine-to-machine interface. In contrast, BellSouth's retail operation does not face this limitation, because its pre-ordering and ordering are already fully integrated. This slower, less efficient process puts new entrants at a competitive disadvantage, because it can lead to delays while the customer is on the line and may limit a new entrant's ability to process a high volume of orders.

163. Moreover, evidence in the record indicates that BellSouth has made changes to LENS that would impede the ability of a carrier to develop and use a software program to extract the data underlying each LENS screen. The record indicates that BellSouth has made significant changes to LENS since it became operationally ready in April 1997, and that BellSouth plans to continue to make design changes to the interface, "because the business is changing and there will be new functionality that needs to be added and the interface is going to need to evolve."[476] BellSouth claims that these changes are improvements that make it easier for a new entrant to use LENS to obtain pre-ordering information.[477] We recognize that development of OSS functions is not a static process, and we encourage BellSouth to continue

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[474] AT&T Bradbury Aff. at paras. 32, 47; BellSouth Stacy OSS Aff. at para. 43; MCI King Decl. at paras. 49-50; Testimony of Gloria Calhoun, BellSouth, South Carolina Commission July 7, 1997, 11:00 a.m. Hr'g, Tr. at 190-91.

[475] BellSouth Stacy OSS Aff. at para. 43; MCI King Decl. at para. 49; Testimony of Gloria Calhoun, BellSouth, South Carolina Commission July 7, 1997, 11:00 a.m. Hr'g, Tr. at 190-91.

[476] Testimony of Gloria Calhoun, BellSouth, South Carolina Commission July 7, 1997, 2:30 p.m. Hr'g, Tr. at 55; *see also* AT&T Bradbury Aff. at para. 195. Examples of previous modifications include the addition in June of customer service records to LENS and a change in the manner in which the customer's community was listed in LENS. Testimony of Gloria Calhoun, BellSouth, South Carolina Commission July 7, 1997, 11:00 a.m. Hr'g, Tr. at 274; Testimony of Gloria Calhoun, BellSouth, South Carolina Commission July 7, 1997, 2:30 p.m. Hr'g, Tr. at 52-53. Prior to this latter change, LENS provided the name of the customer's community in standard English, rather than in the abbreviated format that EDI requires to submit an order. *Id.* at 53. Thus, a carrier would have needed to modify its software program after this change, because prior to June, the carrier needed to translate the community name provided by LENS to submit an order through the EDI interface.

[477] Testimony of Gloria Calhoun, BellSouth, South Carolina Commission July 7, 1997, 2:30 p.m. Hr'g, Tr. at 55.

to make improvements to its operations support systems. Nevertheless, because this method requires a competing carrier to develop a software program that would automatically separate the data from the computer code presented on each LENS screen, and then transfer each data field to the appropriate field in another system, any significant change in the way the data is presented can have a substantial impact on a software program's ability to extract the data correctly. Thus, a carrier that develops a software program to extract the information from each LENS screen would have to expend additional resources each time BellSouth makes a significant change in order to update the program to accommodate those changes.[478] We note that changes in the presentation of data in LENS would not have such a significant impact on the use of CGI, because CGI allows a competing carrier to use the data "independently of the LENS presentation screens."[479]

164. In sum, we conclude that BellSouth's second suggested method of connecting a new entrant's operations support systems or the EDI ordering system to the LENS interface, using software to extract the information provided through each LENS presentation screen, does not provide access to OSS functions for pre-ordering that is equivalent to BellSouth's integrated pre-ordering/ordering interface for its retail operation. In addition, developing such a software program appears infeasible for new entrants given the design changes that BellSouth has made and plans to make to the interface. We further note that a number of parties also contend that BellSouth has not kept them adequately informed of changes to its OSS functions.[480] BellSouth disputes such claims, stating that it regularly informs competing carriers of modifications in advance.[481] We need not reach this issue in this Order, but we reiterate that a BOC has an obligation "to provide competing carriers with the specifications necessary to instruct competing carriers on how to modify or design their systems in a manner that will enable them to communicate with the BOC's legacy systems and any interfaces utilized by the BOC for such access."[482]

165. As a third option, BellSouth suggests that competing carriers could "cut and paste" the information from LENS into another interface. We conclude that this suggested method would also not provide competing carriers with equivalent access to OSS functions for pre-ordering. This method does not allow new entrants to transfer information electronically to their operations support systems or to BellSouth's EDI ordering interface. Rather, a requesting carrier must highlight separate fields of data that appear on different LENS screens,

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[478] MCI Comments at 29; MCI King Decl. at para. 50; Sprint Closz Aff. at para. 16.

[479] Stacy OSS Aff. at para. 43-44.; MCI King Decl. at para. 50.

[480] *See* AT&T Comments at 27; AT&T Bradbury Aff. at paras. 74-76; MCI Comments at 37; Intermedia Comments at 23-26.

[481] Stacy OSS Reply Aff. at para. 63.

[482] *Ameritech Michigan Order* at para. 137.

copy each field, and then transfer each field of data to another interface.[483] As a result, we agree with the Department of Justice, the Florida Commission, and several carriers that this cutting and pasting process leads to increased delays and the risk of human error in transferring the data.[484]

166. For the foregoing reasons, we conclude that new entrants using LENS cannot readily transfer information electronically from LENS to their operations support systems and deploy an integrated pre-ordering and ordering system. In contrast, BellSouth's retail operation uses an integrated pre-ordering and ordering interface.[485] Given that BellSouth has chosen not to deploy a machine-to-machine interface for competing carriers and has impeded the efforts of competing carriers to pursue other methods of connecting LENS electronically to their operations support systems and to the EDI interface, we conclude that BellSouth has failed to deploy a system that offers to competing carriers equivalent access to OSS functions for pre-ordering. As discussed above, this lack of parity in the access to OSS functions offered by BellSouth places new entrants at a significant disadvantage, because this deficiency leads to increased costs, delays, and human errors.[486] As a result, a new entrant, through no fault of its own, may be unable to provide service to its customers at a quality level that matches the service provided by BellSouth. We note that BellSouth plans to deploy a machine-to-machine interface for pre-ordering in the near future.[487] Because a machine-to-machine interface allows competing carriers to transfer information electronically to their operations support systems, we expect that successful deployment of this interface will go a long way toward alleviating the problems discussed above.

b. Lack of Equivalent Access to Due Dates

167. In addition to the general lack of parity between LENS and the interfaces used by BellSouth's retail operations, we agree with a number of carriers, the Department of Justice, and the Florida Commission that BellSouth does not offer to competing carriers nondiscriminatory access to due dates.[488] A due date is the date on which the order is scheduled to be completed. In particular, we find that BellSouth does not offer equivalent

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[483] Department of Justice Evaluation, App. A at A-13; MCI King Decl. at para. 44; *see also Florida Commission Section 271 Order* at 83.

[484] *See* Department of Justice Evaluation, App. A at A-13; *Florida Commission Section 271 Order* at 83; AT&T Bradbury Aff. at para. 46; Intermedia Comments at 20; MCI King Decl. at para. 44.

[485] *See supra* para. 95.

[486] *See* discussion *supra* paras. 156-159.

[487] *See* BellSouth Stacy OSS Aff. at para. 42 & Ex. WNS-21.

[488] Department of Justice Evaluation, App. A at A-17 to A-18; *Florida Commission Section 271 Order* at 84; AT&T Comments at 27; AT&T Bradbury Aff. at paras. 49-55; MCI Comments at 35; MCI King Decl. at paras. 70-77. The South Carolina Commission found that BellSouth is providing equivalent access to due dates, but did not elaborate on this finding. *See South Carolina Commission Compliance Order* at 35.

access to competing carriers, because new entrants, unlike BellSouth's retail operations, cannot be confident that the due date that the new entrants promise their customers based on the information obtained from LENS will be the actual due date that BellSouth assigns to the order. In addition, although we do not base our decision on this issue, we are concerned about allegations in the record that the method of calculating due dates in LENS is discriminatory, whether LENS is used in the inquiry mode or the firm order mode.[489]

168. Based on the evidence in the record, we conclude that BellSouth does not offer nondiscriminatory access to due dates. New entrants do not obtain actual due dates from LENS during the pre-ordering stage. Instead, the actual, firm due date is assigned once BellSouth processes the order through SOCS.[490] A new entrant therefore will not be informed of the actual due date until it receives a firm order confirmation (FOC) from BellSouth.[491] BellSouth states that this same process is used for its retail operations, *i.e.*, it does not provide actual due dates for its service representatives until the order is processed through SOCS.[492] This fact, however, does not lead to parity in the access to due dates, because, as explained above, competing carriers are experiencing significant delays in the processing of their orders.[493] As a result of these delays, by the time competing carriers' EDI orders are processed, the relevant central office and work center may no longer be accepting orders for the day the new entrant promised its customer. New entrants therefore cannot be confident that the due date actually provided after the order is processed will be the same date that the new entrants promised their customers at the pre-ordering stage based on the information obtained from LENS.[494] In contrast, BellSouth's retail service representatives can be confident of the due dates they quote customers at the pre-ordering stage, because BellSouth does not experience the same delays in processing orders that competing carriers currently experience.[495] BellSouth could ameliorate this pre-ordering problem by correcting the deficiencies in its ordering systems and by providing equivalent access to OSS functions

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[489] Department of Justice Evaluation, App. A at A-17 to A-18; AT&T Bradbury Aff. at para. 51-53; MCI King Decl. at paras. 71-74; *see also Florida Commission Section 271 Order* at 84; *supra* para. 91 (describing the inquiry and firm order modes).

[490] Department of Justice Evaluation, App. A at A-18 n.25; AT&T Bradbury Aff. at paras. 50-51; BellSouth Stacy OSS Aff., Ex. WNS-48 (LENS User Guide) at 19; MCI King Decl. at para. 74. For a description of the ordering process and SOCS, see *supra* para. 93.

[491] *See supra* para. 115; *see also* Department of Justice Evaluation, App. A at A-18; AT&T Bradbury Aff. at para. 51.

[492] BellSouth Stacy OSS Aff. at paras. 33-35; Stacy OSS Reply Aff. at para. 29; *see also* Department of Justice Evaluation, App. A at A-18.

[493] *See supra* paras. 104-131.

[494] Department of Justice Evaluation, App. A at A-18; AT&T Bradbury Aff. at para. 55; MCI King Decl. at para. 74.

[495] *See* discussion *supra* para. 104.

through its current systems. We therefore do not suggest that BellSouth must modify its pre-ordering systems to meet the requirement that it offer nondiscriminatory access to due dates. We only conclude that BellSouth's pre-ordering system for providing access to due dates, at the present time, does not offer equivalent access to competing carriers.

169. We view these inequities in obtaining due dates to be a significant deficiency of BellSouth's OSS functions for pre-ordering. A new entrant using LENS for pre-ordering and EDI for ordering cannot provide its customers a due date during the original customer contact with the same level of confidence and accuracy as BellSouth's retail representatives can during an initial customer contact.[496] A new entrant may also be unable to respond to a customer's special scheduling needs while the customer is on the line with the new entrant.[497] At the same time, BellSouth can be confident that it is providing its retail customers with an accurate due date for installing service. Because the ability to provide accurate due date information to a customer is significant from an end-user's perspective, interactions with new entrants will differ in a meaningful manner from interactions with BellSouth. To the customer, the new entrant may appear to be a less efficient and responsive service provider than its competitor, BellSouth, because the new entrant is unable to provide accurate due date information, while BellSouth is able to provide such information. The customer may not understand that the new entrant's inability to provide such information is due to the access that BellSouth provides to OSS functions. We therefore conclude that, at the present time, BellSouth does not deploy systems that provide equivalent access to due dates.

170. Having decided that BellSouth does not offer nondiscriminatory access to due dates, we need not decide whether the method of calculating due dates in LENS is discriminatory, as several parties contend. Nonetheless, although we do not base our decision on this issue, we discuss the issue to highlight our concerns and provide guidance for future applications.

171. It is undisputed that LENS does not provide calculated due dates when used in the inquiry mode for pre-ordering. Instead, the inquiry mode of LENS provides carriers with a calendar showing the days that the applicable central office and work center are open and for which BellSouth is still accepting work orders, and a table of projected intervals for different types of services.[498] In addition, the projected service intervals provided to competing carriers by LENS assume that a technician needs to visit the premises to perform

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[496] Department of Justice Evaluation, App. A at A-18; AT&T Bradbury Aff. at paras. 49, 54; MCI King Decl. at paras. 74-75.

[497] AT&T Bradbury Aff. at para. 54.

[498] Department of Justice Evaluation, App. A at A-17; *Florida Commission Section 271 Compliance Order* at 84; AT&T Bradbury Aff. at para. 51; BellSouth Stacy OSS Aff. at para. 32; BellSouth Stacy OSS Aff, Ex. WNS-48 (LENS User Guide) at 19-20; BellSouth Stacy OSS Reply Aff. at para. 29; MCI King Decl. at para. 74.

the installation.[499] Thus, LENS in this mode requires a competing carrier to determine whether a premises visit is required and to calculate a due date manually. In contrast, BellSouth's retail service representatives are provided with next-available due dates that are automatically calculated based on the services on a particular order, the work that must be performed, and the availability of the work force for the area.[500]

172. Although BellSouth does not contest this apparent lack of parity in access to calculated due dates when LENS is used in the inquiry mode, BellSouth responds that competing carriers can obtain calculated due dates in the same manner as BellSouth representatives simply by using LENS in the firm order mode, rather than in the inquiry mode.[501] A number of competing carriers contend to the contrary, arguing that the use of this mode for pre-ordering leads to several problems.[502] The firm order mode, in contrast to the inquiry mode, requires a carrier to proceed through every pre-ordering function, screen after

[499] See Department of Justice Evaluation, App. A at A-17; AT&T Bradbury Aff. at para. 53; BellSouth Stacy OSS Reply Aff. at para. 28; MCI King Decl. at para. 76. BellSouth contends that it is planning to add to LENS on October 6, 1997, the capability for the CLEC "to view the Quickservice or the Connect-Through indicators in the address validation and due date calendar sections." BellSouth Stacy OSS Aff. at para. 47. BellSouth states that the Quickservice and Connect-Through indicators help a new entrant determine the interval necessary for an order to be completed, because they "are used to determine if a technician needs to be dispatched." *Id.* We emphasize, however, consistent with the Commission's decision in the *Ameritech Michigan Order*, that we must analyze BellSouth's operations support system at the time of the application. Given the statutory time constraints, we do not consider post-filing measures. *See Ameritech Michigan Order* at paras. 152-53. Moreover, we agree with the Department of Justice that, because BellSouth added this functionality after the date it filed its application, we do not know: (1) whether the change was instituted on time; (2) whether the functionality is available in inquiry mode, or only in firm order mode; and (3) whether this functionality works properly. Department of Justice Evaluation, App. A at A-17 n.24.

[500] Department of Justice Evaluation, App. A at A-17; AT&T Bradbury Aff. at para. 50; MCI King Decl. at paras. 70, 75; Testimony of Gloria Calhoun, BellSouth, South Carolina Commission July 7, 1997, 11:00 a.m. Hr'g, Tr. at 209-10. BellSouth's retail service representatives using RNS are provided with a calendar showing the earliest available due date for that specific work order highlighted in green. *See* BellSouth Stacy OSS Aff., Ex. WNS-14; MCI King Decl. at para. 75.

[501] BellSouth contends that its database containing due date information, the Direct Order Entry Support Application Program (DSAP), will only calculate due dates when there is a complete service order, which occurs only in the firm order mode. BellSouth Stacy OSS Aff. at para. 34; Testimony of Gloria Calhoun, BellSouth, South Carolina Commission July 7, 1997, 2:30 p.m. Hr'g, Tr. at 66.

[502] As a result of these problems, the Department of Justice and several parties contend that the inquiry mode is the principal mode when LENS is used for pre-ordering and EDI is used for ordering, as BellSouth recommends, and that the firm order mode appears designed for carriers that use LENS for both pre-ordering and ordering. *See* Department of Justice Evaluation, App. A at A-17; AT&T Comments at 27; AT&T Bradbury Aff. at paras. 51, 80-83; MCI Comments at 33 n.17, 35; MCI King Decl. at para. 51 n.7.

screen, as if the carrier were placing an order.[503] Thus, a carrier that only needed to access certain pre-ordering functions would need to proceed through unnecessary screens and input additional information, thereby requiring a greater number of steps and amount of time to complete the transaction with the customer on the line.[504] Instead of then placing the order, however, a carrier using LENS in the firm order mode for pre-ordering and then EDI for ordering, as BellSouth suggests,[505] would need to cancel the LENS order and then reenter all of the information into the EDI ordering interface.[506] At least one new entrant states the extra steps required to use the firm order mode are so burdensome that it uses the inquiry mode, even though that eliminates its ability to obtain calculated due dates.[507] We note that BellSouth's retail operation does not face these same problems, because its pre-ordering and ordering functions are integrated. We do not base our decision on this issue, however, because there is inadequate evidence in the record for us to assess the impact on a competing carrier of having to go through these extra steps. Thus, we are unable to determine whether a competing carrier can access the same OSS functions in substantially the same time and manner as BellSouth's retail representatives when the competing carrier is using the firm order mode. Nevertheless, because it is reasonable to assume that these extra steps have some impact on competing carriers, we will examine similar allegations carefully in future section 271 applications.

173. Finally, we are concerned about evidence in the record suggesting that the due date calculation provided in the firm order mode of LENS is not accurate for some order types. MCI submits a letter it received from BellSouth dated September 2, in which BellSouth states:

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[503] AT&T Bradbury Aff. at para. 82; BellSouth Stacy OSS Aff. at para. 11; MCI Comments at 35; MCI King Decl. at para. 51 n.7. In contrast, the inquiry mode allows a competing carrier to access only those pre-ordering functions that the carrier needs for that customer. BellSouth Stacy OSS Aff. at para. 19; BellSouth Stacy OSS Reply Aff. at para. 25.

[504] For example, MCI claims that a carrier using the firm order mode would need to "enter a purchase order number, tax codes, [its] own name, and other order related information as if [it] were using LENS to place an actual order. " MCI King Decl. at para. 51 n.7; *see also* AT&T Bradbury Aff. at 82-83; MCI Comments at 33 n.17.

[505] As discussed above, because BellSouth claims that EDI is the primary ordering interface and relies on its EDI interface to demonstrate compliance with the section 271 requirements, we analyze the use of LENS for pre-ordering and the EDI interface for ordering. *See supra* paras. 92-94.

[506] AT&T and MCI contend that, because a carrier using the firm order mode for pre-ordering and EDI for ordering must cancel the LENS order prior to submitting it, the carrier would lose the benefits of certain other functions. AT&T Bradbury Aff. at para. 83; MCI King Decl. at para. 51 n.7. For example, these parties claim that the carrier would lose any telephone numbers that it had reserved for the customer. AT&T Bradbury Aff. at 58 n.42, 83; MCI King Decl. at para. 51 n.7. BellSouth disputes this contention, asserting that numbers selected in firm order mode remain reserved, even if the new entrant does not submit the order through LENS. BellSouth Stacy OSS Reply Aff at para. 23. The issue of telephone number reservation is discussed more fully below. *See infra* paras. 177-179.

[507] MCI King Decl. at para. 51 n.7.

> In addition to providing the installation calendar, LENS provides an alternative due date function in the firm order mode. . . . CLECs issuing LENS orders for conversions "as specified" and new installations should be aware that the LENS firm order due date function may not always be calculating the correct due date for those order types for some locations. . . . We will notify you promptly of the results of our evaluation.[508]

MCI claims that it has not received any further notification.[509] BellSouth claims that it corrected a problem with its appointment calendars in early September and has not experienced any problems since then.[510] Because BellSouth appears to have taken steps to correct the problem with its appointment calendars, we do not base our decision on this issue. We will examine carefully in future applications any allegations that this problem continues to exist, because it would indicate that competing carriers are unable to rely on the dates provided by LENS when used in the firm order mode.

c. Other Concerns

(1) Parity of Particular Functions

174. Beyond access to due dates, parties raise factual issues on the record regarding BellSouth's provision of access to other OSS functions. We are concerned by allegations that differences between LENS and BellSouth's retail interfaces mean that a significantly greater amount of time is required to use LENS to access and review the same pre-ordering information. For example, MCI claims, and the Florida Commission found that if a customer wants to order a specific product or service, or choose a specific interexchange carrier, the new entrant must scroll through a lengthy list of available products and services and a random listing of numerous interexchange carriers to find one.[511] In contrast, MCI contends that BellSouth's retail interfaces allow its customer service representatives to find quickly a specific product or service, or an interexchange carrier, simply by typing in the first few letters of the name.[512] BellSouth responds that the interface its retail operations use for pre-

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[508] *Id.*, Attach. 14, Letter from J.M. Baker, BellSouth Telecommunications, Inc., to CLEC Customers (Sept. 2, 1997); *see also id.*, Attach. 7, Testimony of Gloria Calhoun, BellSouth, Florida Commission Docket No. 960786-TL, Sept. 4, 1997 Hr'g (Florida Commission Sept. 4, 1997 Hr'g), Tr. at 1327 ("All of the users of LENS have been notified by an industry letter that we have received some unexpected results on due date calculation in the firm order mode . . . . Again, BellSouth is not relying on the ordering capabilities of LENS; we are relying on the industry standard EDI ordering method, and this is a problem that we had identified.").

[509] MCI Comments at 35.

[510] BellSouth Stacy OSS Aff. at para. 36.

[511] *Florida Commission Section 271 Order* at 83-84; MCI Comments at 36; MCI King Decl. at paras. 78-81.

[512] MCI Comments at 36; MCI King Decl. at paras. 78, 80; *see also Florida Commission Section 271 Order* at 83-84.

ordering and ordering for business customers requires carriers to scroll through interexchange carriers, but does not indicate whether its newer interface for residential customers requires carriers to scroll through the list of interexchange carriers, or whether either system requires carriers to scroll through a list of services and features.

175. In addition, the Department of Justice and several carriers contend, and the Florida Commission found, that a competing carrier using LENS in the inquiry mode must validate a customer's address prior to accessing each pre-ordering function.[513] Parties argue that they may need to validate an address four times in order to complete pre-ordering transactions for one customer in the inquiry mode.[514] In contrast, these parties contend that BellSouth's retail service representatives need only validate an address one time.[515] As a result, the Department of Justice contends that this process, "for no apparent reason, can nearly double the number of steps [for a new entrant] to accomplish the same result."[516] The Department of Justice, echoing other parties, further states that "it will take [new entrants] substantially longer to reach the same result."[517] BellSouth responds that a new entrant could avoid the need to revalidate an address by using LENS in the firm order mode.[518]

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[513] Department of Justice Evaluation, App. A at A-18 to A-19; *Florida Commission Section 271 Order* at 83; AT&T Comments at 27; AT&T Bradbury Aff. at para. 56; MCI Comments at 33, MCI King Decl. at para. 51. For example, these parties contend that a carrier that wants to view the available features and services, reserve a telephone number, and view the installation calendar would need to validate the customer's address through LENS before each function.

[514] Department of Justice Evaluation, App. A at A-18 to A-19; AT&T Bradbury Aff. at para. 56; MCI King Decl. at para. 51; *see also Florida Commission Section 271 Order* at 83.

[515] Department of Justice Evaluation, App. A at A-19; AT&T Bradbury Aff. at para. 56; MCI King Decl. at para. 52; Testimony of Gloria Calhoun, BellSouth, Florida Commission Sept. 4, 1997 Hr'g, Tr. at 1287-88; *see also Florida Commission Section 271 Compliance Order* at 83.

[516] Department of Justice Evaluation, App. A at A-19.

[517] *Id.*, App. A at A-20; AT&T Bradbury Aff. at para. 56; MCI King Decl. at paras. 51, 53; *see also Florida Commission Section 271 Order* at 83. We note that BellSouth has submitted data for a limited period of time showing that, on average, accessing the database for address validation took between 2 and 3 seconds during the period of time between July 7 and August 14, 1997, and between September 13 and September 15. BellSouth Stacy OSS Aff, Ex. WNS-37. These data, however, show only the response time for accessing the database. Because LENS does not reuse information between screens in the inquiry mode, a new entrant would need to reenter the address or telephone number at each step. Thus, these data do not include the time necessary to enter the address or telephone number at each screen or take into account the possibility of errors in entering such information. Moreover, we are concerned that the response time may slow as the load on the system increases from more competing carriers entering the local markets in each state in BellSouth's region and use of LENS approaches the capacity of the system. *See* Department of Justice Evaluation at A-29. For a discussion of our concerns about the capacity of LENS, see *infra* para. 181.

[518] BellSouth Stacy OSS Reply Aff. at para. 25.

176. We do not determine the merits of these allegations at this time, because the record does not contain adequate evidence for us to quantify the impact of these differences between LENS and BellSouth's retail interfaces on competing carriers. Nevertheless, we will examine carefully any allegations that pre-ordering functions for competing carriers using LENS is a slower, less efficient process than using BellSouth's retail interfaces. If further evidence comes to light showing that competing carriers are unable to perform OSS functions in substantially the same time and manner as BellSouth's retail operation due to the need to perform a greater number of steps, we would find LENS deficient. At the same time, we would expect BellSouth to present evidence to demonstrate that any differences in the interfaces do not have a significant impact on a competing carrier's access to OSS functions. We are especially troubled by these allegations, because a slower, less efficient interface would not provide equivalent access to OSS functions. Such an interface could limit a new entrant's ability to process orders as quickly as BellSouth and may therefore impede the new entrant's ability to engage in an aggressive marketing campaign. As a result, a less efficient interface may have a significant impact on a new entrant's ability to compete effectively in the local exchange market.

(2) Access to Telephone Numbers

177. We next address complaints in the record that BellSouth does not provide nondiscriminatory access to OSS functions for pre-ordering, because BellSouth restricts new entrants' access to telephone numbers.[519] BellSouth acknowledges that it limits the quantity of telephone numbers that a competing carrier can reserve in a central office to 100 numbers or 5 percent of the numbers available in that central office, whichever is less.[520] BellSouth does not impose such a restriction on its retail operation.[521]

178. The Department of Justice and AT&T contend that this practice of restricting access to telephone numbers may place a burden on a new entrant's ability to handle a large volume of orders in a particular area or to conduct marketing campaigns, because a new entrant may reach the limit and be unable to reserve numbers for additional customers.[522] BellSouth responds that this limit on numbers only applies to numbers reserved in the inquiry mode of LENS, and then only until the order is actually placed.[523] Thus, BellSouth contends that a new entrant can avoid this limit altogether by using the firm order mode of LENS for

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[519] Department of Justice Evaluation, App. A at A-15 to A-16; AT&T Comments at 27; AT&T Bradbury Aff. at paras. 58-69; *see also Florida Commission Section 271 Order* at 83.

[520] BellSouth Stacy OSS Aff. at para. 25.

[521] Department of Justice Evaluation, App. A at A-15 to A-16; *Florida Commission Section 271 Order* at 83; AT&T Bradbury Aff. at para. 58.

[522] Department of Justice Evaluation, App. A at 15; AT&T Bradbury Aff. at paras. 59-62.

[523] BellSouth Stacy OSS Reply Aff. at para. 23.

pre-ordering.[524] Moreover, although BellSouth claims that it implemented this practice "as a means to administer the finite pool of numbers for the benefit of all,"[525] BellSouth has expressed its willingness to remove this limit.[526]

179. We are troubled by the impact that this limitation may have on competing carriers. A carrier that wants to market its services in a particular area or conduct a large marketing campaign may face a situation where it is no longer able to reserve numbers through LENS, at least when used in the inquiry mode.[527] The impact of this restriction on access to telephone numbers is aggravated because BellSouth removes a telephone number from the list of reserved numbers only when it processes the order through SOCS.[528] Given the delays in processing orders submitted through EDI, as discussed above,[529] a significant period of time after the new entrant submits the order may pass before the number is taken off the list of reserved numbers. Nevertheless, we need not reach this contested factual issue of when a number counts against this limit, given BellSouth's statements that it would remove this limit. If, however, BellSouth does not remove this limit, we will examine carefully any complaints about access to telephone numbers in future BellSouth applications. We further note that BellSouth imposed this decision in its role as interim number administrator, and that this issue should be resolved, in any event, following the transition to a neutral permanent number administrator.

(3) Operational Readiness

180. We are also concerned about the operational readiness of BellSouth's OSS functions for pre-ordering. A number of carriers, both large and small, contend that LENS regularly "locks up," requiring them to log off, log back on, and restart the transaction with

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[524] *Id.* AT&T and MCI contend that, because a carrier using the firm order mode for pre-ordering and EDI for ordering must cancel the LENS order prior to submitting it, the carrier would lose any telephone numbers that it had reserved for the customer in the firm order mode. AT&T Bradbury Aff. at paras. 58 n.42, 83; MCI King Decl. at para. 51 n.7. BellSouth disputes this contention, asserting that numbers selected in firm order mode remain reserved, even if the new entrant does not submit the order through LENS. BellSouth Stacy OSS Reply Aff. at para. 23.

[525] BellSouth Stacy OSS Aff. at para. 25. BellSouth states that it instituted this policy in its role of interim number administrator. *Id.; see also* Department of Justice Evaluation, App. A at 16.

[526] BellSouth Stacy OSS Reply Aff. at para. 21.

[527] Department of Justice Evaluation, App. A at 15; AT&T Bradbury Aff. at paras. 59-62.

[528] Department of Justice Evaluation, App. A at 15-16.

[529] *See supra* paras. 104-114, 120.

the customer.[530] BellSouth claims that it has not found any general problems with LENS and that it responded quickly to resolve one problem faced by AT&T.[531] Because such problems with the system can directly and negatively affect a carrier's interaction with its customers, we expect BellSouth to respond expeditiously to such complaints whenever they arise. Moreover, as the number of transactions in the region increase, we would be concerned if these incidents increased.

181. Several parties also raise general concerns about the capacity of BellSouth's interface for pre-ordering.[532] The evidence in the record indicates that BellSouth designed LENS to handle 15,000 pre-ordering transactions per day for the nine-state BellSouth region.[533] We are concerned that, as more carriers enter the local market and provide service to a greater number of customers, the number of pre-ordering transactions could rapidly exceed the capacity of LENS. BellSouth claims that it has relied on forecasts from competing carriers to ensure that it has adequate capacity.[534] We encourage BellSouth to continue working with competing carriers to ensure that LENS has adequate capacity to handle current, and reasonably foreseeable, demand volumes.[535]

C. Access to Unbundled Network Elements

1. Summary

182. Section 271(c)(2)(B)(ii) of the Act, item (ii) of the competitive checklist, requires a section 271 applicant to show that it offers "[n]ondiscriminatory access to network elements in accordance with the requirements of sections 251(c)(3) and 252(d)(1)." Section 251(c)(3) in turn establishes an incumbent LEC's "duty to provide, to any requesting telecommunications carrier for the provision of a telecommunications service, nondiscriminatory access to network elements on an unbundled basis at any technically

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[530] ALTS Comments at 23; ALTS Moses (DeltaCom) Aff. at para. 9; ALTS Moses (DeltaCom) Reply Aff. at para. 3; AT&T Reply Comments at 12; Hyperion/KMC Comments, Attach. B, Declaration of Larry E. Miller (Hyperion/KMC Miller Decl.) at para. 18.

[531] BellSouth Stacy OSS Reply Aff. at para. 46.

[532] Department of Justice Evaluation at 29 and App. A at 28; AT&T Bradbury Aff. at paras. 247-50; TRA Comments at 28-29.

[533] Testimony of Gloria Calhoun, BellSouth, South Carolina Commission July 7, 1997, 2:30 p.m. Hr'g, Tr. at 69. We note that a single interaction with a customer may involve multiple pre-ordering transactions on LENS. For example, BellSouth states that a separate transaction occurs each time a carrier validates a customer's address. *Id.*, Tr. at 69 (Testimony of Gloria Calhoun, BellSouth). As discussed above, a carrier must validate a customer's address multiple times when obtaining pre-ordering information in the inquiry mode of LENS. *See supra* para. 175.

[534] BellSouth Stacy OSS Aff. at para. 120.

[535] *Ameritech Michigan Order* at para. 138.